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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/670,105 | 09/24/2003 | Eit Drent | TS1102 (US) | 8177 |
| 23632 | 7590 | 10/20/2006 | EXAMINER | |
| SHELL OIL COMPANY P O BOX 2463 HOUSTON, TX 772522463 | | | LAO, MARIALOUISA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1621 | |

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|---------------------------|----------------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/670,105 MLouisa Lao | DRENT ET AL. Art Unit 1621 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 September 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 21-26 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3,5 and 9-15 is/are rejected.
- 7) Claim(s) 4,6-8 and 16-20 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/21/2006.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Acknowledgement of Restriction

1. Applicant's election without traverse of Claims 1-20 (Group I) in the reply filed on September 20, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election **without** traverse (MPEP § 818.03(a)).

2. Claims 21-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 20, 2006.

The requirement is still deemed proper and is therefore made FINAL.

Acknowledgement of Election of Species

3. Applicants' election of the species of claim 22 wherein the R group represents a bivalent cycloalkane group is acknowledged.

Claim Objections

4. Claims 8 and 9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s)

in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 recites, "at least 5 ring atoms".

5. Claims 17-19 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim #16 recites "... 2 to 40 carbon atoms per molecule".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12-14 recite the limitation "the Group VIII metal" in page 28. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3,5 and 9-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Arnoldy et al. (WO 02/064250, WO '250).

8. The WO '250 art teaches the carbonylation of optionally substituted ethylenically unsaturated compounds by reaction with carbon monoxide and hydrogen in the presence of a catalyst system including: (a) a source of Pt group metal cations, (b) a bidentate diphosphine composition, (c) an acid having pK_a less than 6 measured at 18 deg C, (d) a source of halide anions. The applicant is referred to see the abstract, claims 1-3 page 41, lines 31-34 page 11 and lines 3-8 page 14, correspondingly.

9. The WO '250 art teaches R is a bivalent organic bridging group and "...can comprise optionally substituted or non-substituted saturated or non-saturated aliphatic ring structure, such as for example a substituted or non-substituted cyclopentene..." See lines 14-35 page 6 continued to lines 1-17 page 7 and lines 23-30 page 8 continued to lines 1-31 page 9.

10. The WO '250 art teaches "examples of Pt group metal cations are platinum or palladium compounds". See lines 33-35 page 10 continued to lines 1-7 page 11.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnoldy et al. (WO 02/064250, WO '250).

15. The WO '250 art teaches the carbonylation of optionally substituted ethylenically unsaturated compounds by reaction with carbon monoxide and hydrogen in the presence of a catalyst system including: (a) a source of Pt group metal cations, (b) a bidentate diphosphine composition, (c) an acid having pK_a less than 6 measured at 18 deg C, (d) a source of halide anions. See the abstract, claims 1-3 page 41, lines 31-34 page 11 and lines 3-8 page 14.

The WO '250 art teaches R is a bivalent organic bridging group and "...can comprise optionally substituted or non-substituted saturated or non-saturated aliphatic ring structure, such as for example a substituted or non-substituted cyclopentene...". See lines 14-35 page 6 continued to lines 1-17 page 7 and lines 23-30 page 8 continued to lines 1-31 page 9.

The WO '250 art teaches "examples of Pt group metal cations are platinum or palladium compounds". See lines 33-35 page 10 continued to lines 1-7 page 11.

The WO '250 art fails to teach that the alkenes are octenes in a mixture of octenes, octadienes, methylheptadienes, and/or dimethyl hexadienes.

16. Since phospha-bicycloalkyl rings are commonplace as disclosed in the prior art (Drent et al. WO-A1-01/87899 page 5 lines 1-17) as organic bridging groups and the applicants' election of the species of claim 22 wherein the R group represents a bivalent cycloalkane group, an artisan skilled in this art would have been motivated to employ the use of cycloalkanes, cycloalkenes, octenes, octadienes, methylheptadienes, and/or dimethyl hexadienes equivalent to phospha-bicycloalkyl rings as described in same type of hydroformylation or carbonylation process, the search of which requiring no inordinate degree of experimentation.

17. Therefore, one of ordinary skill in the art would have reasonably expected that the teachings of the WO '250 art would produce the attributes of the instant claimed process of hydroformylation.

18. Thus the claimed invention as a whole is clearly *prima facie* obvious over the teachings of the prior art.

Allowed Subject Matter

19. Claims 4,6-8 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Information Disclosure Statement

20. The information disclosure statement filed September 24,2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because US Patent Document AA and Foreign Patent Document AM recite subject matters that are deemed irrelevant to the instant application. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MLouisa Lao whose telephone number is 571-272-9930. The examiner can normally be reached on Mondays to Fridays from 8:30 am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page, can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mll

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